



2014 Freeze

Marquette County

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Commissioner Gerald O. Corkin

2014 Weather Impacts to **CITY OF ISHPEMING**



Jon Kangas, DPW Director

Water System

- 400+ customers placed on “let run” to avoid freezing.
- Additional 400+ customers experienced frozen water lines. The majority of these lines were thawed using the traditional welder technique.
- Over 2 dozen additional customers placed on temporary water due to inability to thaw pipes.
- At least 5 sections of frozen water main, totaling an estimated 1800 feet of pipe.

Water System

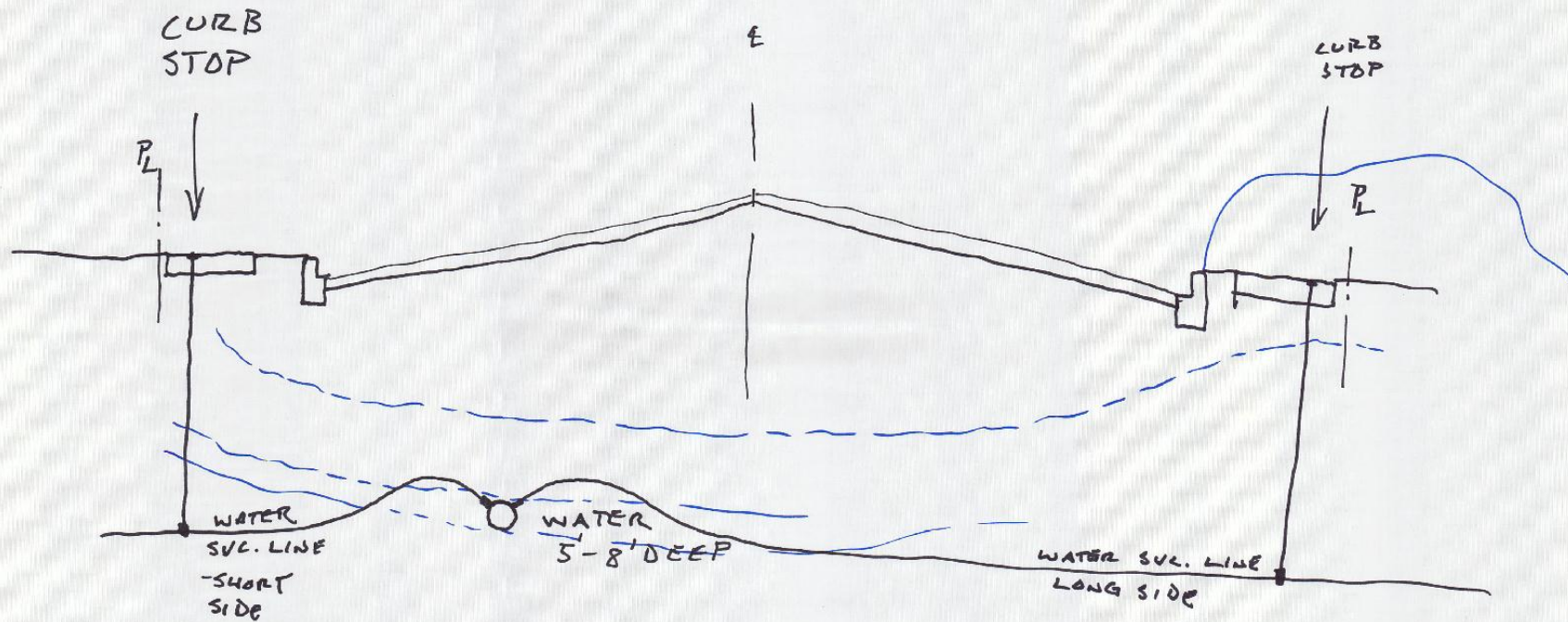
- Approximately 3,000 feet of temporary 2" diameter HDPE water line at \$10/ft. ~\$30,000
- Additional manpower to thaw frozen temporary lines and install road blocks, insulation, etc. ~\$20,000.
- Plumbing costs for temporary connections ~\$10,000.
- Contracted thaw crews (2) ~\$100,000 to date.
- Unbudgeted DPW costs for thawing ~\$100,000 to date.

Water System

- Estimated 500,000 gallons of treated water wasted each day to minimize frozen pipes. ~\$430/day.
- Estimated 500,000 gallons of clean water treated each day due to let runs. ~\$250/day.

Water System

- 13 Water Main breaks to date ~\$90,000. Average year is 10-12 breaks due to age of system.
- Most frozen water main in the ground is cast iron pipe. When the water in the pipe freezes solid, the pipe splits from end to end. (We could be faced with 1800' of water main replacement – up to \$500,000.)



○ SEWER 10'-12' DEEP

Water System – Thaw Setup



Water System – Temp. Water



Water System – Temp. Water



Typical Let Run $\sim 3/4$ gal/min



Sewer System

- 1 frozen main to date.
- 2 frozen force mains from grinder stations.
- Weekly pumping of grinder stations.
- Numerous calls regarding frozen sewer laterals
 - private.

Sewer System



Historic Impacts

- Service line freeze-ups
 - 1994-2013: < 240
 - **Since Dec. 10, 2014:**
565
 - 1993-1994: About 800



Public Health and Safety



- Crews working 60-80 hours a week.
- Crews have had only two days off since January.

Photos courtesy of the Marquette Mining Journal

History

December 1993 – Freeze Hits Marquette County – frost levels were over 6 ft.

- County State of Emergency declared – February 15, 1994.
- Request for State of Disaster to State – February 18, 1994.
- Governor's State of Emergency – February 23, 1994.
- Presidential Declaration from President Clinton – May 10, 1994.
 - 10 counties were affected (8 in U.P. – 2 in Northern Lower).
 - Costs: 3.8 million (April 1994)

Today

- As of March 24, 2014, costs exceed 1.5 million for Marquette County alone and...
- over \$5.1 million for the whole Upper Peninsula.

Today

- In addition to the significant infrastructure damage and public health/safety impacts, this disaster has placed a tremendous financial burden on affected communities.
- DPW's have had to rent or buy specialized equipment.
- Cities have hired local contractors to help.

U.P. Stats

2014 – December has seen unusually colder than normal temperatures.

- 79 straight days of below freezing.
- Frost levels have reached 96" (8 feet) and has cause extensive freezing of water lines and some sewer lines throughout Marquette County.
- Over 13,000 affected throughout the U.P.

Water Situation

Water situation **CRITICAL**

- Commissioner Gerald O. Corkin

Questions?

